46



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DATE: 04/28/98 TIME: 13:07:37

INPUT SET: S25314.raw

This Raw Listing contains the General
Information Section and up to the first 5 pages.

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#### SEQUENCE LISTING 2 General Information (1)3 (i) APPLICANT: O'Brien, John S. 5 (ii) TITLE OF THE INVENTION: METHODS FOR ALLEVIATING NEUROPATHIC PAIN 7 8 (iii) NUMBER OF SEQUENCES: 24 q 10 (iv) CORRESPONDENCE ADDRESS: (A) ADDRESSEE: Fish & Richardson P.C. 11 (B) STREET: 4225 Executive Square, Suite 1400 12 13 (C) CITY: La Jolla 14 (D) STATE: CA 15 (E) COUNTRY: US 16 (F) ZIP: 92037 17 18 (V) COMPUTER READABLE FORM: 19 (A) MEDIUM TYPE: Diskette 20 (B) COMPUTER: IBM Compatible 21 (C) OPERATING SYSTEM: Windows95 (D) SOFTWARE: FastSEQ for Windows Version 2.0 22 23 24 (vi) CURRENT APPLICATION DATA: (A) APPLICATION NUMBER: 08/928,074 25 26 (B) FILING DATE: 11-SEP-1997 27 (vii) PRIOR APPLICATION DATA: 28 (A) APPLICATION NUMBER: 08/611,307 29 30 (B) FILING DATE: 05-MAR-1996 31 32 (vii) PRIOR APPLICATION DATA: (A) APPLICATION NUMBER: PCT/US97/04143 33 (B) FILING DATE: 05-MAR-1996 34 35 36 (VIII) ATTORNEY/AGENT INFORMATION: 37 (A) NAME: Haile, Ph.D., Lisa A. (B) REGISTRATION NUMBER: 38,347 38 (C) REFERENCE/DOCKET NUMBER: 07256/024001 39 40 (ix) TELECOMMUNICATION INFORMATION: 41 42 (A) TELEPHONE: 619/678-5070 43 (B) TELEFAX: 619/678-5099 44 45

### RAW SEQUENCE LISTING PATENT APPLICATION US/08/928,074

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|    | •  |
|----|--|
| 47 | (2) INFORMATION FOR SEQ ID NO:1:   |
| 48 | CUADACTEDISTICS:   |
| 49 | (i) SEQUENCE CHARACTERISTICS:  |
| 50 | (A) LENGTH: 22 amino acids   |
| 51 | (B) TYPE: amino acid   |
| 52 | (D) TOPOLOGY: linear   |
| 53 |  |
| 54 | (ii) MOLECULE TYPE: peptide  |
| 55 |  |
| 56 | (V) FRAGMENT TYPE: internal  |
| 57 |  |
| 58 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:  |
| 59 | Cys Glu Phe Leu Val Lys Glu Val Thr Lys Leu Ile Asp Asn Asn Lys  |
| 60 | Cys Glu Phe Leu Val Lys Glu Val Thr Lys Led 110 App 15   |
|    | 1  |
| 61 | Thr Glu Lys Glu Ile Leu  |
| 62 | 20   |
| 63 |  |
| 64 | (2) INFORMATION FOR SEQ ID NO:2:   |
| 65 |  |
| 66 | (i) SEQUENCE CHARACTERISTICS:  |
| 67 | (A) LENGTH: 14 amino acids   |
| 68 | (R) TYPE: amino acid   |
| 69 | (D) TOPOLOGY: linear   |
| 70 |  |
| 71 | (ii) MOLECULE TYPE: peptide  |
| 72 | (11)   |
| 73 | (ix) FEATURE:  |
| 74 | (B) LOCATION: 22   |
| 75 | (B) LOCATION: 22 (D) OTHER INFORMATION: Ala at position 2 is a D-enantiomer  |
| 76 |  |
| 77 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:  |
| 78 | (AZ) ZZZ   |
| 79 | Thr Ala Leu Ile Asp Asn Asn Ala Thr Glu Glu Ile Leu Tyr  |
| 80 | Thr Ala led 115 map 10   |
| 81 |  |
| 82 | (2) INFORMATION FOR SEQ ID NO:3:   |
| 83 |  |
| 84 | (i) SEQUENCE CHARACTERISTICS:  |
| 85 | (A) LENGTH: 12 amino acids   |
| 86 | (B) TYPE: amino acid   |
| 87 | (D) TOPOLOGY: linear   |
| 88 |  |
| 89 | (ii) MOLECULE TYPE: peptide  |
| 90 |  |
| 91 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:  |
| 92 |  |
| 93 | Leu Ile Asp Asn Asn Lys Thr Glu Lys Glu Ile Leu<br>10  |
| 94 | Leu Tie Asp Asi 10   |
| 95 |  |
| 96 | , a through the for day as are   |
| 97 |  |
| 98 | TO ADVIDATOR CHURANI I DELLOTA CONTRA |
| 99 | 11/ 002  |

# RAW SEQUENCE LISTING PATENT APPLICATION US/08/928,074

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|     | INFO I SELL. BEECLE   |
|-----|---|
|     | (A) LENGTH: 22 amino acids                                      |
| 100 | (B) TYPE: amino acid  |
| 101 | (D) TOPOLOGY: linear  |
| 102 | (D) TOPOLOGI: 11.000  |
| 103 |   |
| 104 | (ii) MOLECULE TYPE: peptide                                     |
| 105 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:                         |
| 106 | (Xi) SEQUENCE DESCRIPTION                                       |
| 107 | Cys Gln Phe Val Met Asn Lys Phe Ser Glu Leu Ile Val Asn Asn Ala |
| 108 | Cys Gln Phe Val Met Ash Bys 110                                 |
| 109 | 1   |
| 110 | Thr Glu Glu Leu Tyr   |
| 111 | 20  |
| 112 | (2) INFORMATION FOR SEQ ID NO:5:                                |
| 113 | (2) INFORMATION FOR SEC.  |
| 114 | GUADACHEDISTICS:  |
| 115 | (i) SEQUENCE CHARACTERISTICS:                                   |
| 116 | (A) LENGTH: 21 amino acids                                      |
| 117 | (B) TYPE: amino acid  |
| 118 | (D) TOPOLOGY: linear  |
| 119 | mynu. nentide   |
| 120 | (ii) MOLECULE TYPE: peptide                                     |
| 121 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:                         |
| 122 | (xi) SEQUENCE DESCRIPTION TO THE                                |
| 123 | Cys Gln Leu Val Asn Arg Lys Leu Ser Glu Leu Ile Ile Asn Asn Ala |
| 124 | Cys Gln Leu Val Ash Alg Lys Lou 10                              |
| 125 | 1   |
| 126 | Thr Glu Glu Leu Leu   |
| 127 | 20  |
| 128 |   |
| 129 | (2) INFORMATION FOR SEQ ID NO:6:                                |
| 130 | (2) INFORMATION 150 2-2   |
| 131 | (i) SEQUENCE CHARACTERISTICS:                                   |
| 132 | (A) LENGTH: 22 amino acids                                      |
| 133 | (B) TYPE: amino acid  |
| 134 | (B) TYPE: amino dolu<br>(D) TOPOLOGY: linear                    |
| 135 | (D) TOPOLOGI: IIIIcar   |
| 136 | (ii) MOLECULE TYPE: peptide                                     |
| 137 |   |
| 138 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:                         |
| 139 | (X1) SEQUENCE BESSELL -   |
| 140 | Cys Glu Tyr Val Val Lys Lys Val Met Leu Leu Ile Asp Asn Asn Arg |
| 141 | Cys Glu Tyr Val Val 175 -1 10                                   |
| 142 |   |
| 143 | Thr Glu Glu Lys Ile Ile<br>20                                   |
| 144 |   |
| 145 | (2) INFORMATION FOR SEQ ID NO:7:                                |
| 146 |   |
| 147 | , 1 CONTINUE CHARACIENTO  |
| 148 | AN TEMETH: 22 amino acido                                       |
| 149 | רתי mypr. amino aclu  |
| 150 | ny modology: linear   |
| 151 | ·   |
| 152 |   |
|     |   |

## RAW SEQUENCE LISTING PATENT APPLICATION US/08/928,074

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```
(ii) MOLECULE TYPE: peptide
153
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
154
155
      Cys Glu Phe Val Val Lys Glu Val Ala Lys Leu Ile Asp Asn Asn Arg
156
157
        1
158
       Thr Glu Glu Glu Ile Leu
159
                    20
160
                (2) INFORMATION FOR SEQ ID NO:8:
161
162
             (i) SEQUENCE CHARACTERISTICS:
163
                (A) LENGTH: 22 amino acids
164
165
                (B) TYPE: amino acid
166
                (D) TOPOLOGY: linear
 167
              (ii) MOLECULE TYPE: peptide
 168
 169
              (XI) SEQUENCE DESCRIPTION: SEQ ID NO:8:
 170
 171
        Cys Glu Phe Leu Val Lys Glu Val Thr Lys Leu Ile Asp Asp Asn Lys
 172
 173
        1
 174
        Thr Glu Lys Glu Ile Leu
 175
                      20
 176
 177
                  (2) INFORMATION FOR SEQ ID NO:9:
 178
 179
 180
               (i) SEQUENCE CHARACTERISTICS:
                 (A) LENGTH: 14 amino acids
  181
  182
                 (B) TYPE: amino acid
  183
                 (D) TOPOLOGY: linear
  184
               (ii) MOLECULE TYPE: peptide
  185
  186
               (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
  187
  188
         Thr Lys Leu Ile Asp Asn Asp Lys Thr Glu Lys Glu Ile Leu
  189
  190
           1
  191
  192
                   (2) INFORMATION FOR SEQ ID NO:10:
  193
   194
                (i) SEQUENCE CHARACTERISTICS:
   195
                  (A) LENGTH: 14 amino acids
   196
   197
                  (B) TYPE: amino acid
   198
                  (D) TOPOLOGY: linear
   199
   200
                (ii) MOLECULE TYPE: peptide
   201
                (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
   202
   203
          Thr Lys Ser Ile Asp Asn Asn Lys Thr Glu Lys Glu Ile Leu
   204
    205
```

### RAW SEQUENCE LISTING PATENT APPLICATION US/08/928,074

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| 206  |
|--|
| 208 209 209 209 209 209 200 201 211 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 20 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 215 216 (ii) MOLECULE TYPE: peptide 217 218 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11: 219 220 231 242 252 26 (2) INFORMATION FOR SEQ ID NO:12: 222 224 225 (2) INFORMATION FOR SEQ ID NO:12: 227 228 (A) LENGTH: 15 amino acids (B) TYPE: amino acids (B) TYPE: amino acids (C) TOPOLOGY: linear 232 233 (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 234 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 235 236 237 33 (ii) MOLECULE TYPE: peptide 237 238 239 240 (2) INFORMATION FOR SEQ ID NO:13: 239 240 (2) INFORMATION FOR SEQ ID NO:13:  |
| (i) SEQUENCE CHARACTERISTICS:   (a) LENGTH: 20 amino acids   |
| (A) LENGTH: 20 amino acids (B) TYPE: amino acids (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13: |
| (A) LENGTH: 20 amino acids (B) TYPE: amino acids (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13: |
| (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acids (B) TYPE: amino acids (C) TOPOLOGY: linear  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:                             |
| (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acids (B) TYPE: amino acids (C) TOPOLOGY: linear  (xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear  (xi) SEQUENCE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:                             |
| (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  218  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  219  220  Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val  221  222  Asp Gly Val Pro  223  224  (2) INFORMATION FOR SEQ ID NO:12:  (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  236  Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly  237  238  240  (2) INFORMATION FOR SEQ ID NO:13:  (ii) SEQUENCE CHARACTERISTICS:   |
| (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val  10 15  221 1 1 5 10 15  222 Asp Gly Val Pro 223 204  225 (2) INFORMATION FOR SEQ ID NO:12:  227 (i) SEQUENCE CHARACTERISTICS: 228 (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  230 (D) TOPOLOGY: linear  231 (ii) MOLECULE TYPE: peptide  232 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  233 (34 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  236 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 237 (2) INFORMATION FOR SEQ ID NO:13:  240 (2) INFORMATION FOR SEQ ID NO:13:  |
| (ii) MOLECULE TIPE: Peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val  10 15  Asp Gly Val Pro 20 20  (2) INFORMATION FOR SEQ ID NO:12:  (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) Type: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  36  37  Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly  38  1 1 5 10 15  (2) INFORMATION FOR SEQ ID NO:13:  |
| 217 218 219 219 220 Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val 221 1 5 10 15 222 Asp Gly Val Pro 223 20 224 225 (2) INFORMATION FOR SEQ ID NO:12: 226 (3) SEQUENCE CHARACTERISTICS: 227 228 (A) LENGTH: 15 amino acids 230 (B) TYPE: amino acids 231 (D) TOPOLOGY: linear 232 233 234 234 235 236 237 236 237 238 Clu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 239 240 240 241 242 242 242 243 244 245 246 247 247 248 248 248 249 240 241 240 241 242 248 248 248 25 26 27 28 (2) INFORMATION FOR SEQ ID NO:13:   |
| Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val  |
| Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile Asn Leu Asp Ser Val  |
| 221 1 222 Asp Gly Val Pro 223 20  224  225 (2) INFORMATION FOR SEQ ID NO:12:  226 (3) SEQUENCE CHARACTERISTICS:  228 (A) LENGTH: 15 amino acids  230 (B) TYPE: amino acid  231 (D) TOPOLOGY: linear  232 (ii) MOLECULE TYPE: peptide  233 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  236 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly  238 1 5 10  239  240  241 (2) INFORMATION FOR SEQ ID NO:13:   |
| 221 1 222 Asp Gly Val Pro 223 20  224  225 (2) INFORMATION FOR SEQ ID NO:12:  226 (3) SEQUENCE CHARACTERISTICS:  228 (A) LENGTH: 15 amino acids  230 (B) TYPE: amino acid  231 (D) TOPOLOGY: linear  232 (ii) MOLECULE TYPE: peptide  233 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  236 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly  238 1 5 10  239  240  241 (2) INFORMATION FOR SEQ ID NO:13:   |
| 221 1 222 Asp Gly Val Pro 223 20  224  225 (2) INFORMATION FOR SEQ ID NO:12:  226 (3) SEQUENCE CHARACTERISTICS:  228 (A) LENGTH: 15 amino acids  230 (B) TYPE: amino acid  231 (D) TOPOLOGY: linear  232 (ii) MOLECULE TYPE: peptide  233 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  236 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly  238 1 5 10  239  240  241 (2) INFORMATION FOR SEQ ID NO:13:   |
| 223 224 225 226 (2) INFORMATION FOR SEQ ID NO:12: 227 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 232 (ii) MOLECULE TYPE: peptide 233 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 236 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 1 239 240 (2) INFORMATION FOR SEQ ID NO:13: 241 242   |
| 223 224 225 226 (2) INFORMATION FOR SEQ ID NO:12: 227 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 232 (ii) MOLECULE TYPE: peptide 233 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 236 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 1 239 240 (2) INFORMATION FOR SEQ ID NO:13: 241 242   |
| 224 225 226 227 228 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  231 (ii) MOLECULE TYPE: peptide  234 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  235 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 237 238 240 241 (2) INFORMATION FOR SEQ ID NO:13:   |
| 225 226 (2) INFORMATION FOR SEQ ID NO:12: 227 228 (i) SEQUENCE CHARACTERISTICS: 229 (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 231 (ii) MOLECULE TYPE: peptide 234 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 236 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 237 238 1 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242  |
| (i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 15 1  |
| (i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 15 1  |
| (i) SEQUENCE CHARACTERISTICS:  (i) SEQUENCE CHARACTERISTICS:  (i) SEQUENCE CHARACTERISTICS:  |
| (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:  |
| (B) TYPE: amino acid (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:   |
| (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: peptide  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: Description: SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:   |
| 232 233 (ii) MOLECULE TYPE: peptide 234 235 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 236 237 Clu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 237 238 1 5 1 (2) INFORMATION FOR SEQ ID NO:13: 242 (i) SEQUENCE CHARACTERISTICS:   |
| (ii) MOLECULE TIPE. POPULATED SEQ ID NO:12:  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  (xi) SEQUENCE CHARACTERISTICS:  |
| 234 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12: 235 236 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 1 5 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242   |
| 236 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 1 5 10 15 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242  |
| 236 237 Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala Gly 238 1 5 10 15 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242  |
| 238 1 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242 242 242 243 244 245 247  |
| 238 1 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 242 242 242 243 244 245 247  |
| 238 239 240 241 (2) INFORMATION FOR SEQ ID NO:13: 241 242  |
| 240 (2) INFORMATION FOR SEQ ID NO:13: 241 242 (i) SEQUENCE CHARACTERISTICS:  |
| 242 CHARACTERISTICS:   |
| 242 CHARACTERISTICS:   |
| / 1 / GEOTTENCE CHARACTER PT - "   |
| /i/ GEOHENCE CHARACTERES   |
| 243 (1) SECONDE 17 amino acids   |
| /A\ LENGTH: 1/ amino do-   |
| 1Β/ ΨΑΡΚ: SWING SCIE   |
| 245<br>246 (D) TOPOLOGY: linear  |
|  |
| 247<br>248 (ii) MOLECULE TYPE: peptide   |
| 249 DESCRIPTION: SEO ID NO:13:   |
| (xi) SEQUENCE DESCRIPTION  |
| 250 (112) 251<br>251 Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu<br>252 Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu  |
| 252 Leu Gln Met Ile Leu Asn Gly Ile Ash Ash 192 272 15   |
| 252 263 553 5  |
| 254 Thr  |
|  |
| 255  |
| 256  |
|  |
| 257<br>258 (2) INFORMATION FOR SEQ ID NO:14:   |

# SEQUENCE VERIFICATION REPORT PATENT APPLICATION US/08/928,074

DATE: 04/28/98 TIME: 13:07:42

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Original Text